



SEQUENCE LISTING

<110> Advisys
Baylor College of Medicine

<120> SYNTHETIC MUSCLE PROMOTERS WITH ACTIVITIES EXCEEDING NATURALLY OCCURRING REGULATORY SEQUENCES IN CARDIAC CELLS

<130> 108328.00161 - AVSI-0027

<140> 10699597
<141> 2003-10-30

<150> US 60/423,536
<151> 2002-11-04

<160> 22

<170> PatentIn version 3.1

<210> 1
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<212> DNA
<213> artificial sequence

<220>
<223> SRE control elements used in the promoters.

<400> 1
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<220>
<223> MEF-1 control element used in the promoters

<400> 2
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<210> 3
<211> 19
<212> DNA
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<220>
<223> MEF-2 control element used in the promoters.

<400> 3
cgctctaaaa ataactccc

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<210> 4
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<212> DNA
<213> artificial sequence

<220>
<223> TEF-1 control element used in the promoters.

<400> 4
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13

<210> 5
<211> 335
<212> DNA
<213> artificial sequence

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<223> Nucleic acid sequence of an eukaryotic promoter c5-12.

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gctacccgga ggagcgggag gcgc当地 agct ctaga 335

<210> 6
<211> 40
<212> PRT
<213> artificial sequence

<220>
<223> This is the artificial sequence for GHRH (1-40)OH.

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<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa at position 1 may be tyrosine, or histidine

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa at position 2 may be alanine, valine, or isoleucine.

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> Xaa at position 15 may be alanine, valine, or isoleucine.

<220>
<221> MISC_FEATURE
<222> (27)..(27)
<223> Xaa at position 27 may be methionine, or leucine.

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> Xaa at position 28 may be serine or asparagine.

<400> 6

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Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Xaa Xaa Arg Gln Gln Gly
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala
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<210> 7
<211> 3534
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<213> artificial sequence

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<223> Nucleic acid sequence for the HV-GHRH plasmid.

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<210> 8
 <211> 3534
 <212> DNA
 <213> artificial sequence

<220>
 <223> Nucleic acid sequence for the TI-GHRH plasmid.

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<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence for the TV-GHRH plasmid.

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<210> 10
<211> 3534
<212> DNA
<213> artificial sequence

<220>
<223> Nucleic acid sequence for the 15/27/28 GHRH plasmid.

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<211> 2710
<212> DNA
<213> artificial sequence

<220>

<223> Vector with a mouse codon optimized GHRH analog sequence

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agggcgatcg	2710

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 <211> 2713
 <212> DNA
 <213> artificial sequence

<220>
 <223> Vector with a rat codon optimized GHRH analog sequence

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ggaagggcga tcg 2713

<210> 13
<211> 2704
<212> DNA
<213> artificial sequence

<220>
<223> Vector with a bovine codon optimized GHRH analog sequence

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atcg 2704

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<210> 14
<211> 2704
<212> DNA
<213> artificial sequence

<220>
<223> Vector with a ovine codon optimized GHRH analog sequence

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aagaagatcc tttgatcttt	tctacggggc	tagcgcttag	aagaactcat	ccagcagacg	1740	
gtagaatgca atacgttgag	agtctggagc	tgcaatacca	tacagaacca	ggaaacggtc	1800	
agcccattca ccacccagtt	cctctgcaat	gtcacggta	gccagtgc当地	tgtcctggta	1860	
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catgatgttc ggcagggcatg	catcaccatg	agtaactacc	aggcctcac	catccggcat	1980	
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tgcctgggtgg tcaaacggac	aggttagctgg	gtccagggtg	tgcagacgac	gcattgc当地	2160	
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acacggaaaca ccagtgggtg	ccagccaaga	cagacgagct	gcttcatcct	gcagttcatt	2340	
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ttcaacccag gctgccggag	aacctgc当地	cagaccatcc	tgttcaatca	tgcgaaacga	2520	
tcctcatcct gtctttgat	cagatcttga	tccccctgc当地	catcagatcc	ttggcggcaa	2580	
gaaagccatc cagtttactt	tgcagggctt	cccaaccta	ccagagggcg	ccccagctgg	2640	
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atcg					2704	

<210> 15
 <211> 2713
 <212> DNA
 <213> artificial sequence

<220>
 <223> Vector with a chicken codon optimized GHRH analog sequence

<400> 15	tgtaatacga	ctcactatag	ggcgaattgg	agctccaccg	cggtggcggc	cgtccgccc	60
	cggcaccatc	ctcacgacac	ccaaatatgg	cgacgggtga	ggaatggtgg	ggagttattt	120
	ttagagcggt	gaggaaggtg	ggcaggcagc	aggtgttggc	gctctaaaaa	taactcccgg	180
	gagttat	ttt tagagcggag	gaatggtgga	cacccaaata	tggcgacggt	tcctcacc	240
	tcgcccattt	tgggtgtccg	ccctcggccg	gggcccattt	cctggggg	gggcgggtct	300

cccgccccgc tcgataaaaag gctccggggc cggcggcggc ccacgagcta cccggaggag 360
cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac 420
agctcaccta gctgccatgg ccctgtgggt gttcttgtg ctgctgaccc tgacctccgg 480
aagccactgc agcctgccac ccagcccacc cttccgcgtc aggcccaacg ccgacggcat 540
cttcagcaag gcctaccgca agtcctggg ccagctgagc gcacgcaact acctgcacag 600
cctgatggcc aagcgcgtgg gcagcggact gggagacgag gccgagcccc tgagctgata 660
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gccactccag tgcccaccag ctttgtccta ataaaattaa gttgcacatcat tttgtctgac 780
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agggttaatt tcgagcttgg tcttccgctt cctcgctcac tgactcgctg cgctcggtcg 960
ttcggctgcg gcgagcggta tcagctcaact caaaggcggta aatacggta tccacagaat 1020
caggggataa cgcagggaaag aacatgtgag caaaaggcca gcaaaaggcc aggaaccgta 1080
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atcgacgctc aagttaggagg tggcgaaacc cgacaggact ataaagatac caggcgttc 1200
cccctggaag ctccctcggt cgctctcctg ttccgaccct gccgcttacc ggataacctgt 1260
ccgcctttct cccttcggga agcgtggcgc tttctcatag ctcacgctgt aggtatctca 1320
gttcggtgta ggtcggtcg tccaagctgg gctgtgtgca cgaacccccc gttcagcccg 1380
accgctgcgc cttatccggt aactatcgtc ttgagtc当地 cccggtaaga cacgacttat 1440
cgccactggc agcagccact ggtaacagga ttagcagagc gaggtatgta ggcggtgcta 1500
cagagttctt gaagtgggtgg cctaactacg gctacactag aagaacagta tttggtatct 1560
gwgctctgct gaagccagtt accttcggaa aaagagttgg tagctcttga tccggcaaac 1620
aaaccaccgc tggtagcggg ggttttttgg tttgcaagca gcagattacg cgcagaaaaa 1680
aaggatctca agaagatcct ttgatctttt ctacggggct agcgctttaga agaactcatc 1740
cagcagacgg tagaatgcaa tacgttgaga gtctggagct gcaataccat acagaaccag 1800
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attctcaacc atgatgttcg gcaggcatgc atcaccatga gtaactacca ggtcctcacc 1980
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acgatgttt gcctggtgt caaacggaca ggtagctggg tccagggtgt gcagacgacg	2160
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ctgaccggaa acttcaccca gcagcagcca gtcacgacca gcttcagtaa ctacatccag	2280
aactgcagca cacggaacac cagtggttgc cagccaagac agacgagctg cttcatcctg	2340
cagttcattc agagcaccag acaggtcagt tttaacaaac agaactggac gaccctgtgc	2400
agacagacgg aaaacagctg catcagagca accaatggtc tgctgtgcc agtcataacc	2460
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gcgaaacgat cctcatcctg tctcttgatc agatcttgat cccctgcgcc atcagatcct	2580
tggcggcaag aaagccatcc agtttacttt gcagggcttc ccaaccttac cagagggcgc	2640
cccagctggc aattccggtt cgcttgctgt ccataaaacc gcccagtcta gcaactgttg	2700
ggaagggcga tcg	2713

<210> 16
<211> 382
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter c1-26.

ggcgcccgag ggcggcgggg cagggcagcag gtgtggcac cattcctcac cgctctaaaa	60
ataactcccc tgaggaatgg tgccgtcgcc atattgggt gtcgacaccc aaatatggcg	120
acgggtgagg aatggtgggc aggcagcagg tggggaca cccaaatatg ggcacggcca	180
acacctgctg cctgccggga gttatttta gagcggggag ttattttag agcggtgagg	240
aatggtggac acccaaataat ggcgacggcc ggggcccata tcctgggggc cggcggtgc	300
tcccgccccgc ctcgataaaa ggctccgggg ccggcggcgg cccacgagct acccggagga	360
gcgggaggcg ccaagctcta ga	382

<210> 17
<211> 218
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter sequence for c2-26.

cggccgtcgc catatttggg tgtccgtct aaaaataact cccgacaccc aaatatggcg	60
acggggcagg cagcagggtgt tggacacacc aatatatggcg acggccgggg ccgcattcct	120

ggggggccggg cggtgctccc gccccctcg ataaaaggct ccggggccgg cggcggccca	180
cgagctaccc ggaggagcgg gaggcgccaa gctctaga	218
<210> 18	
<211> 230	
<212> DNA	
<213> artificial sequence	
<220>	
<223> This is the synthetic sequence for c2-27.	
<400> 18	
cggccgtcgc catatttggg tgtcggcagg cagcaggtgt tggcaccatt cctcaccgt	60
cgcacatattt gggtgtcggc aggcagcagt gttggacac ccaaataatgg cgacggccgg	120
ggccgcattc ctgggggccc ggcggtgctc ccgcgcgcct cgataaaagg ctccggggcc	180
ggcggcggcc cacgagctac ccggaggagc gggaggcgcc aagctctaga	230
<210> 19	
<211> 231	
<212> DNA	
<213> artificial sequence	
<220>	
<223> This is the synthetic promoter for c5-5.	
<400> 19	
cggccgtccg ccctcgggac acccaaataat ggcgacgggt gaggaatggt gcaccattcc	60
tcaacggagt tattttaga gcggtgagga atggtgaca cccaaataatg ggcacggccg	120
gggcgcatt cctgggggccc ggcggtgct cccgcgcgc tcgataaaag gtcgggggc	180
cggcggcggc ccacgagcta cccggaggag cggaggcgcc caagctctag a	231
<210> 20	
<211> 255	
<212> DNA	
<213> artificial sequence	
<220>	
<223> This is the synthetic promoter for c6-5.	
<400> 20	
cggccgtcgc catatttggg tgtccaaaca cctgctgcct gccccgtcgc catatttggt	60
gtcggcaggc agcaggtgtt ggccaacacc tgctgcctgc cgggagttat ttttagagcg	120
gacacccaaa tatggcgacg gcccggccg cattcctggg ggccggccgg tgctccgc	180
cgcctcgata aaaggctccg gggccggccgg cggcccacga gctacccgga ggagcgggag	240
gcgcacaagct ctaga	255

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<210> 21
<211> 283
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter for c6-16.

<400> 21
cggccgtcgc catatttggg tgtccgctct aaaaataact cccccaacac ctgctgcctg      60
ccccgtcgcc atatttgggt gtcggcagggc agcaggtgtt ggccaacacc tgctgcctgc      120
cccaacacacct gctgcctgcc ccgtcgccat atttggtgtc cgccctcggc cggggccgca      180
ttcctggggg ccgggcggtg ctcccgccccg cctcgataaaa aggctccggg gccggcggcg      240
gcccacgagc taccggagg agcgggagggc gccaagctct aga                         283

<210> 22
<211> 263
<212> DNA
<213> artificial sequence

<220>
<223> This is the synthetic promoter for c6-39.

<400> 22
cggccgtccg ccctcgaaaa agttatttt agagcgccaa cacctgctgc ctgccccgtc      60
ccatatatttgg ggtgtcgca ggcagcaggt gttggggag ttattttag agcgccgtcg      120
ccatatatttgg gtgtcccgag ggcggacggc cggggccgca ttcctggggg ccgggcggtg      180
ctcccgccccg cctcgataaaa aggctccggg gccggcggcg gcccacgagc taccggagg      240
agcgggagggc gccaagctct aga                         263

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